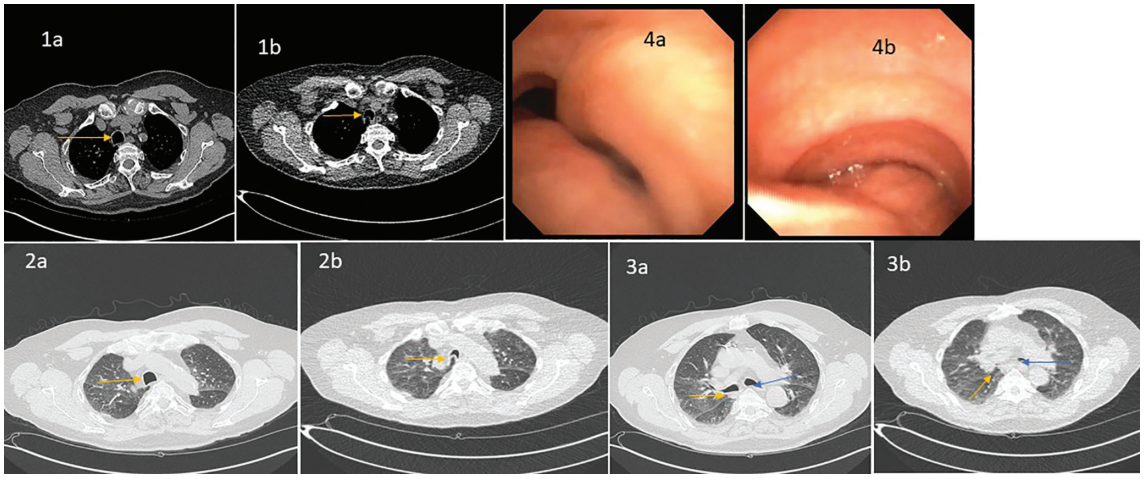

Expiratory central airway collapse (ECAC) is a pathology that has been gaining recognition in the medical community due to its unspecific symptoms and diagnostic challenges. Its current gold standard for diagnosis, dynamic bronchoscopy, is of invasive nature. Therefore, there is an increased need for accurate non-invasive diagnostic workup. Current non-invasive techniques such as computed tomography (CT) protocols have shown limited reproducibility. We present a case of a 77-year old man with suspected ECAC, who underwent evaluation with two different expiratory CT protocols. He presented with non-specific respiratory symptoms, shortness of breath, and non-diagnostic pulmonary function tests. The initial standard end-expiratory CT could not detect any degree of airway collapsibility After this failed attempt, dynamic bronchoscopy was performed, confirming diagnosis for severe ECAC (Figure 4A-B). Subsequently, we implemented a novel CT protocol called Dynamic-Forced expiratory CT, comprising of detailed, consecutive helical imaging of the central airway throughout the entire respiratory cycle. Dynamic-forced expiratory CT detected severe ECAC (Figure 1A-3B) as proven with the earlier dynamic bronchoscopy. We hypothesize this new protocol is easily reproducible, requires low radiation exposure and may reduce the risks and need for performing multiple invasive procedures such as dynamic bronchoscopy. Larger studies are needed to evaluate the feasibility of its implementation for diagnosing ECAC.

1 A . CT image yellow arrow displaying mid-trachea during inspiration.

1 B . CT image yellow arrow displaying mid-trachea during forced expiration

2 A . CT image yellow arrow displaying lower trachea during inspiration

2 B . CT image yellow arrow displaying Lower trachea during forced expiration

3 A . CT Image yellow arrow and blue arrow displaying right and left mainstem bronchi respectively during inspiration.

3 B . CT image yellow arrow and blue arrow displaying right and left mainstem bronchi respectively during forced expiration.

4 A . Dynamic Bronchoscopy Showing collapse in left mainstem bronchus

4 B . Dynamic bronchoscopy showing collapse in right mainstem bronchus.

O22-5 | Complete pulmonary function profiles of 267 post COVID patients with exertional dyspnea in Bangladesh

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Background: Post Covid-19 syndrome is becoming an important clinical entity world-wide in this pandemic era. Significant number of patient had breathless long after recovering from acute inflammation.

Table-1: Complete PFT profiles of these Post COVID-19 Patients (n-267)

Indicator	Mean	Std. Deviation
Spirometry		
FVC	80.44	16.654
FEV1	85.97	20.203
FEV1/FVC%	107.73	55.636
PEF	97.58	21.069
FEF25-75%	74.07	26.908
MEF25%	60.33	28.016
MEF50%	79.95	27.781
MEF75%	96.21	46.404
Diffusion Capacity		
DLCO (mL/im/mmHg)	54.75	16.527
DLCO corr (mL/im/mmHg)	57.02	16.791
DLCO/VA (mL/im/mmHg/L)	86.94	21.331
Lung Volumes		
ERV	63.90	22.05
IC	80.46	28.39
VC	74.66	16.89
IRV	1.47	3.47
TLC (DLCO)	67.21	14.049
FRC/TLC (DLCO)	79.87	13.991
RV/TLC (DLCO)	69.43	23.253
RV (DLCO)	47.93	20.300

Method: This is a retrospective observational study on the patient who attended OPD of a tertiary care Hospital in Dhaka for exertional breathlessness and who were found to be fit for complete pulmonary function test over 1 year. All the demographic and clinical profiles, HRCT Chest, complete pulmonary function tests were collected from computerized data recording system and analyze them to find out the cause their dyspnea in these patients and its associations with initial HRCT Chest findings.

Results: Total 262 patients who had Covid and recovered but had exertional dyspnea were enrolled. The mean age of the patients was 47.85 (±13.80); 170 male patients and rest 92 were female. Among the 262 patients 216 were COVID-19 positive by RT-PCR test, 46 were PCR negative but HRCT Chest and other clinical criteria in favor of COVID-19. Of them, 28 (mean of the smoking year 20.40 (±12.49) and average some cigarette per day 13. 87 (±12.83)) were found smoker and 238 were no- smoker. Diabetes (68.4%) and Hypertension 961.8%) was their main co morbidity. Among the studied patients,76 had HRCT chest at the time of active infection and their mean scoring was 12.11 (out of 35) and moderate CT scoring was seen in 55.7% patients. Complete PFT revealed that mean FVC is 80.44 (±16.65), mean FEV1 is 85.97 (±20.20), mean FEV1/FVC 107.73 (±55.64), mean FEF25-75% 74.07 (± 26.9). They had mean DLCO 54.75 (±16.53), mean DLCO/VA 86.94 (±31.33). Mean TLC was 67.21 (±14.05), mean RV 47.93 (±20.30) and mean RV/TLC 69.43 (±23.25). Severe diffusion defect (DLCO <50%) seen in 38.2% and moderate defect (DLCO 50%-65%) seen in 35.5% patients. But theses DLCO abnormalities had no co-relation with CT Chest severity scoring (P value 0.062)

Conclusion: In the studied patients, major abnormalities were diffusion defect and reduced volumes (RV, ERV, TLC). So, it is the volume reduction and diffusion membrane defect that leads to dyspnea in these patients.

Keywords: complete PFT, DLCO, exertional breathlessness, post Covid syndrome.

O23: Pulmonary Circulation

O23-1 | Clinical features of novel phenotype in pulmonary hypertension along with mild lung parenchymal change without severe ventilatory impairment

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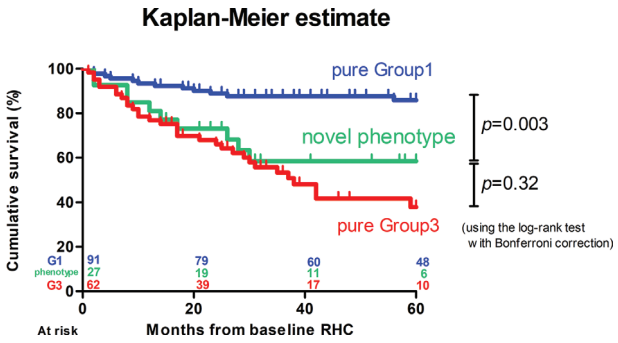
Background and Aims: Group1 pulmonary hypertension (PH) with mild lung parenchymal change (LPC) and Group3 PH without severe ventilatory impairment (SVI) have been focused as their new phenotypes. However, clinical features of PH patients along with mild LPC without SVI have been well unknown. We aimed to clarify clinical differences of the patients from that of pure Group1 and Group3.



Methods: We retrospectively investigated 1471 cases of right heart catheterization from April 2000 to March 2020 and found 543 patients diagnosed with PH. Patients with Group 2,4,5 PH, and Group3 PH due to hypoxia were excluded, and 180 patients were enrolled. Then, we categorized patients without LPC as pure-Group1, patients with mild LPC without SVI as novel PH phenotype and patients with either severe LPC or mild LPC with SVI as pure-Group3. Clinical differences among three groups were statistically examined.

Results and Conclusions: In novel PH phenotype, mean pulmonary artery pressure (mPAP) was as high as in pure-Group1 and higher than in pure-Group3. On the contrary, distances in six minute walk test was shorter than in pure-Group1 and as short as in pure-Group3. Five-year survival of novel PH phenotype was worse than that of pure-Group1 and tended to be better than that of pure-Group3 (58.5% vs 85.9% vs 37.9%). In the Cox proportional hazard model, mPAP was only a good predictor of prognosis in novel PH phenotype (p=0.018). In conclusion, novel PH phenotype showed moderate to severe PH and low exercise capacity, and mPAP could be important for their prognosis.

O23-2 | Clinical characteristics of pulmonary arterial hypertension and co-existing lung disease: Analysis of the data from National Research Project of Intractable Disease in Japan

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Background and Aims: Although treatment for pulmonary hypertension (PH) due to lung disease has not been established yet, responders to pulmonary arterial